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ABSTRACT

This curriculum guide for business mathematics was developed to establish statewide curriculum standards for the Louisiana Competency-based Education Program. Following an overview of the secondary school mathematics curriculum, eight goals for the business mathematics course are listed. A pacing chart with suggested time periods for each major topic is given. This is followed by the curriculum outline and performance objectives for each of the eight topics: the bank, the wage earner, small business, operations of the small business, problems of small business, the manufacturer, taxes, and stocks (optional). In the next section, activities are detailed for the various topics. Evaluative techniques are briefly discussed, and an answer key is provided. (MNS)

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BUSINESS MATHEMATICS

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CURRICULUM GUIDE
Bulletin 1612
1981

Revised 1984

Thomas G. Clausen, Ph.D.
Superintendent

SE 045 999

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STATE OF LOUISIANA

DEPARTMENT OF EDUCATION

BUSINESS MATHEMATICS CURRICULUM GUIDE

BULLETIN 1612

1981

Revised 1984

Issued by

Office of Academic Programs

Thomas G. Clausen, Ph.D.

Superintendent

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*It may be beneficial for you to teach certain topics out of order.
Example: Federal Income Tax may be taught during the tax season.

FOREWORD

Curriculum guides have been developed for grades K-8 at the elementary level and for each mathematics course at the secondary level. These guides represent the best thinking of a selected statewide committee established to determine the scope of mathematics content which should be taught at each level.

The mathematics curriculum guides are another segment of the total educational program mandated by the Legislature in both the accountability and assessment and the competency-based education laws. This educational program requires that specific skills and concepts be established for each grade level and for each subject area. The mathematics curriculum guides with course outlines, performance objectives and coordinated activities effect this phase of the program.

It is hoped that the mathematics curriculum guides will make a major contribution to the improvement of mathematics instruction in the schools of Louisiana.

Thomas G. Clausen, Ph.D.

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The Statewide Mathematics Curriculum Committee is to be commended for its work in the development of the Mathematics Curriculum Guide Series, K-12. Leadership for this project was provided by Dr. Jean Reddy Clement, Section Chief, Mathematics Section, Bureau of Secondary Education.

Supervisors in the Bureau of Elementary Education working under the direction of Mrs. Bonnie Ross, Elementary Supervisor, developed the activities for the K-8 guide. The activities for the secondary mathematics guides were written by a committee of secondary mathematics teachers and Dr. Clement. Revisions were under the direction of Dr. Clement and Mrs. Doris Meyer. These dedicated educators are to be commended for their enthusiasm in undertaking this formidable project and for the superb quality of their contributions to this unique and comprehensive Mathematics Curriculum Series.

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INTRODUCTION

Act 750 of the 1979 Louisiana Legislature (R.S. 17:24.4) established the Louisiana Competency-Based Education Program. One of the most important provisions of Act 750 is the mandated "development and establishment of statewide curriculum standards for required subjects for the public elementary and secondary schools of this state..." The "statewide curriculum standards for required subjects" are defined as "the required subjects to be taught, curriculum guides which contain minimum skills and competencies, suggested activities, suggested materials of instruction, and minimum required time allotments for instruction in all subjects." Act 750 further provides that the "effective implementation date of the statewide curriculum standards for required subjects shall be the 1981-82 school year. Development of such curriculum shall begin by the 1979-80 school year."

During the 1978-79 school year, curriculum guides were developed by advisory and writing committees representing all levels of professional education and all geographic areas across the State of Louisiana for the following mathematics courses: Algebra I, Algebra II, Geometry, Advanced Mathematics, and Trigonometry. The major thrust of the curricular development process in each of the guides has been the establishment of minimum standards for student achievement. Learning expectancies for mastery have been determined for each course and/or grade level. In addition, content outlines, suggested activities, procedures, and bibliographies have been developed as aids to the learning expectancies. The curriculum guides also contain activities designed to stimulate learning for those students capable of progressing beyond the minimums.

During the 1979-80 school year, the secondary mathematics curriculum guides were piloted by teachers in school systems representing the different geographic areas of the state as well as urban, suburban, inner-city, and rural schools. The standard populations involved in the piloting reflected also the ethnic composition of Louisiana's student population. Participants involved in the piloting studies used the curriculum guides to determine the effectiveness of the materials that were developed. Based upon the participants' recommendations at the close of the pilot study, revisions were made in the curriculum guides to ensure that they are usable, appropriate, accurate, comprehensive, relevant, and clear. These curriculum guides were implemented statewide in the 1980-81 school year.

Following the established curricular development procedures, curriculum guides for Mathematics I, Mathematics II, Consumer Mathematics, Business Arithmetic, and Computer Science were developed in 1979-80 and piloted in 1980-81. These curriculum guides were implemented statewide in the 1981-82 school year. This revision of the original guide has been prepared from suggestions collected statewide from teachers who have used the guide.

As curriculum guides are implemented, the following guidelines should prove helpful:

...curricular standards should be considered as the foundation for the year's instructional program. Where other programs are already in operation, these curricular materials must be checked with the foundation curricula to ensure that appropriate course and/or grade level standards are included and maintained.

...curricular activities contained in the guides provide a number of suggestions for helping students to achieve the established standards. Activities to meet the needs of "average," "below average," and "above average" students have been included in the appropriate guides. These activities should prove helpful as the teacher plans and organizes instruction. Additional activities, however, may supplement or be used in lieu of those listed in the guide as long as these activities are designed to achieve similar specific objectives.

...curricular suggestions for meeting the needs of the special child have been prepared by the Office of Special Educational Services. These suggestions are designed to provide help for teachers who work with special children in the regular classroom.

The continued effort of mathematics teachers to provide quality instruction will enhance our statewide goal to ensure that every student in the public elementary and secondary schools of the State of Louisiana has an opportunity to attain and to maintain skills that are considered essential to functioning effectively in society.

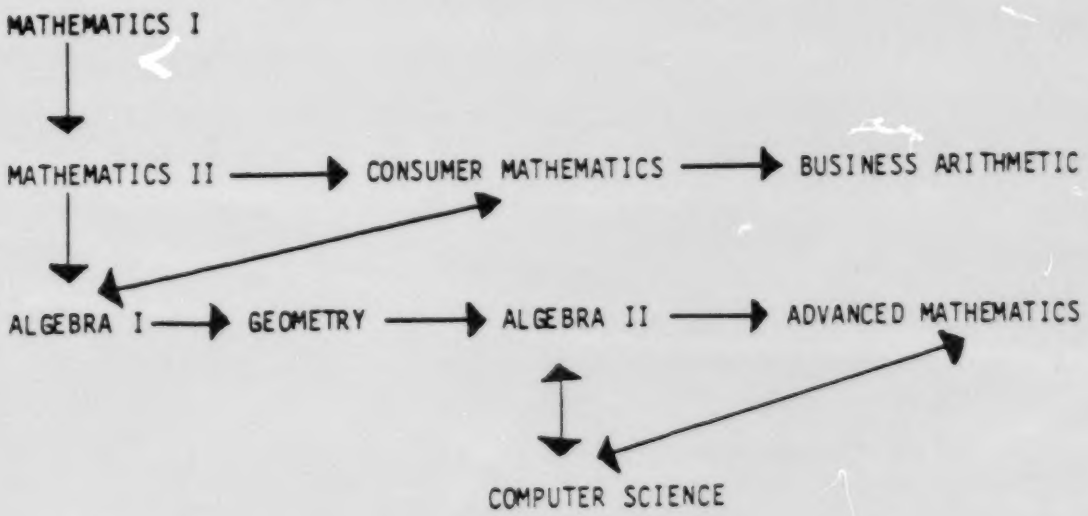
RATIONALE

Understanding the development of the entire set of mathematics curriculum guides is important to the proper use of the guides. This understanding is especially vital to the proper placement of students in the areas of Mathematics I, Mathematics II, Consumer Mathematics, and Business Arithmetic. To avoid unnecessary duplication and repetition of content, the writing committee selected those topics which were deemed most appropriate for each of these courses. These topics were then eliminated from the content of the other courses or were treated with less emphasis.

Teachers and counselors need also to be aware of the difficulty levels of these courses. Mathematics I, the most fundamental course, is designed for those students who are entering ninth grade and who have not acquired the basic skills in arithmetic. The stronger students who are still not quite prepared for success with Algebra I upon entering the ninth grade should be encouraged to schedule Mathematics II. Mathematics II is designed to strengthen mathematical background and to prepare students for Algebra I and Geometry. Every student who plans to go to college should take Algebra I (at least). It is recommended that they also take Geometry and Algebra II.

Consumer Mathematics, as the name indicates, treats that mathematics which each of us encounters routinely as a citizen and consumer. The content differs from that of Business Arithmetic in that Business Arithmetic approaches the topics from the viewpoint of either an employer or one engaged in business or manufacturing. It is not recommended that a student who has successfully completed Algebra II be allowed to take either Mathematics I or Mathematics II.

The accompanying diagram should aid in understanding some possible avenues a student may take in his secondary mathematics career.



GOALS

Upon completion of a secondary course in Business Mathematics, the student will be able to:

1. Keep personal money records and account balances.
2. Understand wage rates and salary deductions.
3. Prepare records for a small business.
4. Understand the buying and selling procedures of a small business.
5. Solve problems relating to business costs and to distributing income for a partnership or corporation.
6. Develop an awareness of the problems of a manufacturer.
7. Understand taxing procedures and preparation of a Federal income tax form.
8. Understand the buying and selling of stocks.

PACING CHART

The following pacing chart contains suggested periods of time to devote to each major topic in the mandatory portion of this curriculum guide. Since students learn at different rates and days are lost during the school year for various reasons, this pacing chart is based on 33 weeks of school. This provides three weeks of school to use as "pad" time in allowing for the factors affecting pacing. Should a group of students complete the mandatory material prior to the end of school, this guide provides ample optional and supplemental material to use as enrichment.

	TOPIC	NUMBER OF WEEKS
I.	The Bank	9
II.	The Wage Earner	4
III.	The Small Business	2
IV.	The Operations of the Small Business	5
V.	The Problems of Small Business	2
VI.	The Manufacturer	2
VII.	Taxes	8
VIII.	Stocks (optional)	1

*Six weeks are allowed for the teaching of income tax. It could be taught to coincide with tax season.

CURRICULUM OUTLINE AND PERFORMANCE OBJECTIVES

CURRICULUM OUTLINE	PERFORMANCE OBJECTIVES
I. The Bank	
A. Money Records	A. To demonstrate a basic understanding of banking procedures, the student will be able to:
1. Checkbook Records	1. Prepare forms for checkbook records by:
a. Deposit slips	a. Using deposit slips
b. Stub records	b. Writing checks and completing check stub records
2. Checkbook Balance	2. Prove a checkbook balance by:
a. Bank statement	a. Comparing the bank statement and canceled checks with a checkbook record
b. Outstanding checks	b. Identifying and computing the total of the outstanding checks
c. Reconciliation statement	c. Compiling information and computing the balance on a reconciliation statement form
B. Savings Plan	B. To illustrate a basic understanding of savings plans and earned income involved in these plans, the student will be able to:
1. Savings Accounts	1. Complete deposit forms, withdrawal forms and transactions necessary for:
a. Passbook	a. Maintaining a current passbook record
b. Interest	b. Calculating simple interest earned
c. Compound interest	c. Calculating compound interest using compound interest tables
2. Special Savings Plan	2. To illustrate a basic understanding of special savings plans and earned income involved in these plans, the student will be able to:
a. Certificates of deposit	a. Determine the difference in interest earned on certificates of deposit and passbook savings

CURRICULUM OUTLINE	PERFORMANCE OBJECTIVES
b. Money markets	b. Determine feasibility of money market investments
c. Other savings plans	c. Determine feasibility of other savings plans
C. Borrowing Money	C. To demonstrate a basic understanding of types of lending agencies and borrowing procedures, the student will be able to:
1. Promissary Notes	1. Identify, complete and read desired information from the note to:
a. Discounting	a. Calculate the discount on a note
b. Proceeds	b. Determine the proceeds on a note
2. Interest	2. Apply terminology and utilize formulas to:
a. Simple	a. Calculate simple interest on a business transaction
b. Compound	b. Determine compound interest or future value of money using computations or compound interest tables
c. Annual percentage rate - APR	c. Calculate the annual percentage rate on loans and installment purchases
3. Borrowing on Collateral	3. Define collateral in its different forms and:
a. Collateral notes	a. Identify the collateral used or desired information from the face of the note
b. Demand notes	b. Find the amount due on the date of settlement
c. Mortgages	c. Determine the interest and total amount due at a specific time
4. Other Lending Agencies	4. Select the best type of lending agency for a particular need, such as credit unions, commercial banks, finance companies, etc.

CURRICULUM OUTLINE	PERFORMANCE OBJECTIVES
II. The Wage Earner	
A. Wages	A. To demonstrate a basic understanding of the concepts relating to wage earning, the student will be able to:
1. Hourly rate	1. Compute wages earned on an hourly rate basis
2. Regular time and overtime	2. Compute wages that involve overtime
3. Time clock and timecard	3. Figure hours worked and earnings from the timecard
4. Piecework	4. Compute wages based on piece-rate
5. Deductions	5. Calculate net wages that involve deductions:
a. Income tax	a. By using a withholding tax table
b. FICA tax	b. By using a social security tax table or the tax rate method
c. Insurance	c. For personal insurance
d. Miscellaneous	d. For fund drives, dues, garnisheeing of wages, etc.
B. Commissions	B. To determine wages based on commissions, the student will be able to:
1. Straight commission	1. Find the amount of pay if the rate is based on quantity sold or value of sales
2. Salary and commission	2. Find the amount of pay given a fixed salary plus commission
3. Graduated commission	3. Compute the total commission if several commissions are involved
4. Commission formula	4. Determine the rate of commission or amount of sales using the formula $R = C \div S$
5. Commission and net proceeds	5. Compute an agent's commission and the net proceeds received by the principal

CURRICULUM OUTLINE	PERFORMANCE OBJECTIVES
C. Income Problems	C. To demonstrate a basic understanding of personal finance, the student will be able to:
1. Personal cash record	1. Compile and total a monthly and yearly cash record
2. Personal budget problems	2. Determine expenditures based on earnings
III. The Small Business	
A. The Balance Sheet	A. To demonstrate a basic understanding of the financial structure of a business, the student will be able to prepare a balance sheet and:
1. Assets	1. Determine the assets using the formula A = L + P or from the balance sheet
2. Liabilities	2. Determine the liabilities from the balance sheet or the formula A = L + P
3. Proprietorship	3. Determine the proprietorship from the balance sheet or the formula A = L + P
B. The Income Statement	B. To demonstrate a basic understanding of the operation of a business, the student will prepare an income statement and be able to:
1. Net sales	1. Figure net sales
2. Gross profit	2. Calculate gross profit
3. Cost of goods sold	3. Determine the cost of goods sold
4. Net income or loss	4. Determine and identify net income or net loss
5. Statement analysis	5. Make a percentage analysis of the major items on the income statement.
C. The Payroll	C. To demonstrate a basic understanding of the employee payroll, the student will be able to:
1. Payroll register	1. Prepare a payroll register from the information on the timecard and other records

CURRICULUM OUTLINE	PERFORMANCE OBJECTIVES
C. The Payroll (Continued)	
2. Individual earnings records	2. Prepare an individual earnings record for an employee
IV. The operations of the Small Business	
A. The Retailer - Buying	A. To demonstrate a basic understanding of buying procedures and transactions, the student will be able to:
1. Purchasing Merchandise	1. Find the total cost and due date of purchased goods by:
a. Invoices	a. Calculating extensions and finding the total amount due on a purchase invoice
b. Due date	b. Counting ahead from the date of the invoice using the terms stated on the invoice
2. Trade Discounts	2. Apply the discount formula Rate x List Price = Discount to:
a. Single discounts	a. Calculate the discount and invoice price when a single discount is given
b. Rate of discount	b. Determine the rate of discount
c. Discount series	c. Calculate the total discount and invoice price when several discounts are given
3. Cash Discounts	3. Apply the discount formula Rate x Invoice Price = Cash Discount to:
a. Cash discount and cash price	a. Calculate the cash discount and cash price
b. Rate of cash discount	b. Determine the rate of cash discount
4. Buying Expense	4. Determine the total cost of purchased goods by:

CURRICULUM OUTLINE	PERFORMANCE OBJECTIVES
a. Cost of item	a. Finding invoice price or cash price
b. Cost of transportation	b. Finding the cost of transportation
c. Formula application	c. Applying the formula Price + Expenses = Total Cost
B. The Retailer - Selling	B. To demonstrate a basic understanding of marketing procedures and transactions, the student will be able to:
1. Sales records	1. Prepare a daily sales summary and prove the totals
2. Retail discounts	2. Apply the formula for discounts to:
a. Rate of discount	a. Calculate the rate of discount
b. Selling price	b. Calculate the selling price
3. Profit on Sales	3. Apply appropriate formulas to:
a. Gross profit	a. Calculate gross profit
b. Net profit	b. Determine the net profit
c. Rate of markup	c. Compute the rate of markup and the rate of net profit based on the selling price of an article
4. Pricing Goods	4. Find the price of an article given:
a. Sales price basis	a. The selling price and rate of markup
b. Cost price basis	b. The cost and rate of markup
C. Warehouse and Distribution	C. To demonstrate a basic understanding of warehouse and distribution practices, a student will be able to:
1. Storage space	1. Calculate the number of cubic feet needed to store specific merchandise
2. Inventory	2. Demonstrate a basic understanding of inventory procedures by:

CURRICULUM OUTLINE	PERFORMANCE OBJECTIVES
a. Taking inventory	a. Determining the number of each item that your business has in stock
b. Valuing inventory	b. Calculating the value of inventory in stock
c. Carrying inventory	c. Determining the inventory needed to meet production
3. Transportation	3. Calculate the total cost of transporting inventory.
D. Management Practices	D. To demonstrate a basic understanding of management practices, the student will be able to:
1. Coding goods	1. Develop, read and apply codes
2. Bankruptcy	2. Solve problems relating to bankruptcy
V. The problems of Small Business	
A. Business Costs	A. To recognize cost of office operations of a business, the student will be able to:
1. Building rental	1. Determine the cost of renting or leasing a building or portion of a building
2. Maintenance and improvement of buildings	2. Determine the total cost of maintaining and improving the buildings
3. Utilities	3. Calculate the cost of utilities
4. Office equipment and supplies	4. Solve problems relating to office equipment and supplies
5. Office labor	5. Determine the cost of office labor
6. Professional services	6. Determine the cost of consultants
7. Advertising	7. Calculate the cost of advertising using different media
8. Insurance	8. Determine the cost of basic insurance

CURRICULUM OUTLINE	PERFORMANCE OBJECTIVES
B. Distributing Partnership Income	B. To demonstrate a basic understanding of business income, the student will be able to recognize and apply the methods of distributing income of a partnership.
C. Distributing Corporation Income	C. To demonstrate a basic understanding of business income, the student will be able to recognize and apply the methods of distributing income of a corporation.
VI. The Manufacturer	
A. Cost of Manufacturing	A. To demonstrate an awareness of the cost involved in manufacturing, the student will be able to:
1. Cost elements	1. Solve problems relative to cost elements
2. Distributing expenses	2. Calculate distribution of factory expenses
B. Pricing Articles	B. To demonstrate an understanding of the factors involved in pricing manufactured articles, the student will be able to:
1. Gross profit	1. Determine gross profit
2. Net profit	2. Calculate net profit
VII. Taxes	
A. Property	A. To demonstrate a basic understanding of property taxes, the student will be able to calculate the amount to be raised by the property tax and to calculate the tax rate.
B. Sales and Excise	B. To demonstrate a basic understanding of sales and excise taxes, the student will calculate the sales or excise tax and the total cost to the buyers.
C. Social Security	C. To demonstrate a basic understanding of the F.I.C.A. tax, the student will determine the employees and employers tax.

CURRICULUM OUTLINE	PERFORMANCE OBJECTIVES
D. Federal Income	D. To demonstrate a basic understanding of the preparation of a Federal income tax return, the student will be able to:
1. Total income	1. Determine total income
2. Standard deduction	2. Determine standard deduction
3. Exemptions	3. Determine the number and amount for exemptions
4. Taxable income	4. Find the taxable income
5. Taxes paid	5. Find the tax amount due from a table and tax credit information
6. Refund	6. Find the balance or refund due
7. Income tax forms	7. Complete Forms 1040 and 1040A, filing both a single and a joint return using supporting schedules for itemizing
VIII. Stocks (Optional)	
A. Total Investment	A. To demonstrate a basic understanding of stock investment, the student will calculate the total investment.
B. Stock Quotations	B. To demonstrate a basic understanding of stock quotation, the student will read the daily stock quotation tables.
C. Stock Income and Profit	C. To demonstrate a basic understanding of stock income and profit, the student will calculate the total income and total profit on a given stock.
D. Sale of Stocks	D. To demonstrate a basic understanding of sales of stocks, the student will quote the loss or gain or a given stock.

ACTIVITIES

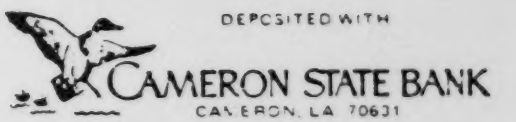
I. A. CONTENT: The Bank, Personal Money Records

OBJECTIVE: The student will be able to prepare and maintain checking account records.

ACTIVITIES: a) Complete the following problems:

1. Complete the deposit form using your company's name, address and current date, and the following items:

   Three (3) ten dollar bills, four (4) one dollar bills, and Checks: #12039 for $59.95; #987899 for $2.50; #57892 for $17.80.



DEPOSITED WITH

CAMERON STATE BANK

CAMERON, LA 70631

FOR ACCOUNT OF DATE _____ 19 ____

NAME _____

ADDRESS _____

CITY _____

Items received for deposit are credited subject to the rules and conditions of the contract governing deposits and the right is reserved to charge back any item at any time before final payment.

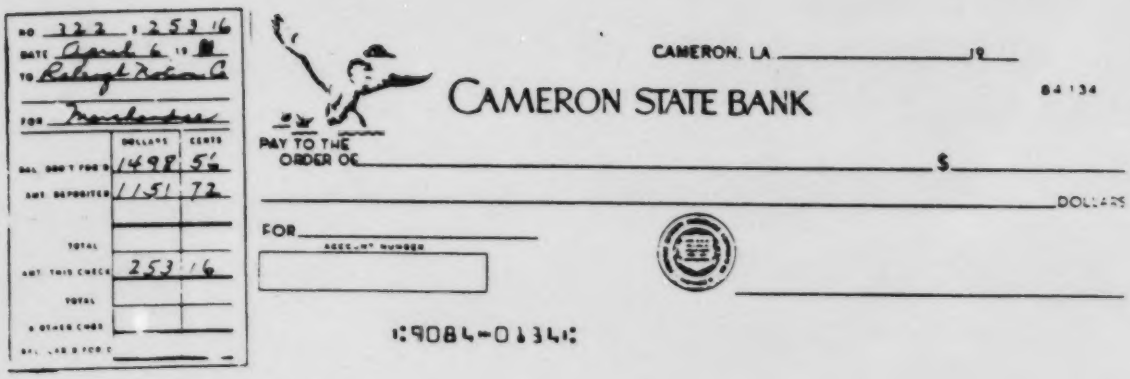
ACCOUNT NO

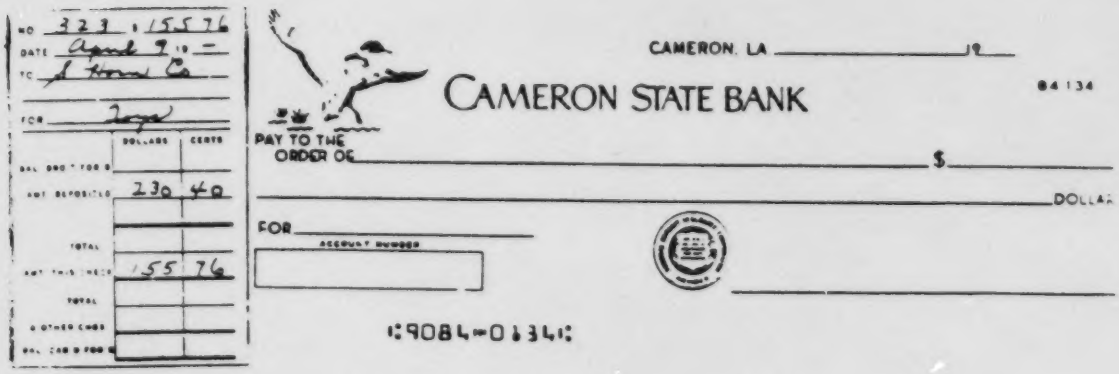
By

CASH		
CHECKS AS FOLLOWS		
SEE THAT ALL CHECKS AND DRAFTS ARE ENDORSED	TOTAL DEPOSIT	

BEST COPY AVAILABLE

I. A. ACTIVITIES: 2. Complete the following checks and stubs for the indicated transactions.





BEST COPY AVAILABLE

I. A. ACTIVITIES: 3. Fu Yung's Chinese Restaurant's bank statement, dated December 31, showed a balance of $2,726.86. The checkbook balance was $1,815.60. There were three outstanding checks: No. 309, $170.70; No. 315, $39.16; and No. 331, $207.60. The bank made a service charge of $4.20. A $700 note was collected by the bank and credited to Young's account. A deposit totaling $202, made the last day of the month, had not been credited. Reconcile the bank and checkbook balances.

Bank Balance	$_____	Checkbook Balance	$_____
Deduct Outstanding Checks		Deduct Service Charge	_____
No. 309 $_____			
No. 315 _____			
No. 331 _____	_____		
	$_____		
Add Deposit not Credited	_____	Add Note Collected by Bank	_____
Adjusted Bank Balance	$_____	Adjusted Checkbook Balance	_____

I. B. CONTENT: The Bank, Savings Plans

OBJECTIVE: The student will be able to prepare and maintain savings account records.

ACTIVITIES: a) Solve the following problems. (Assume a year has 360 days.)

1. On January 2, Howard Brothers deposited $600 in a savings bank that pays 6% interest a year and added the interest on April 1, July 1, October 1, and January 2 of each year. If no more deposits or withdrawals were made, how much was on deposit on the following January 2?

_____

I. B.

2. Using a compound interest table, calculate the interest on a deposit of $1,100.00 compounded quarterly at 6% for 4 years.

3. Contact local financial institutions (banks, savings and loan, etc.) for current information pertaining to Certificates of Deposit and Money Market Certificates.

   Write a report comparing these types of savings plans with regular passbook accounts.

I. C. CONTENT: The Bank, Borrowing Money

OBJECTIVE: The student will be able to solve problems pertaining to borrowing money.

ACTIVITIES: a) Solve the following problems. (Assume a year has 360 days.)

1. Find the discount and proceeds in each of the following notes.

	Face of Note	Time to Run	Date of Note	Discount Rate	Amount of Discount	Proceeds
a)	$200.00	2 months	July 17	6%	_____	_____
b)	$364.00	60 days	August 8	5-3/4%	_____	_____
c)	$286.75	6 months	January 3	7%	_____	_____

2. On June 30, DuBois Co., Inc. borrowed $750 from the Cameron State Bank, giving the bank a four-month note for the amount. The note was dated June 30, and the interest rate was 15%. When was the note due? How much did they pay for the note?

3. State the date of maturity on each of the following notes: (Assume February has 28 days.)

	Date	Time	Date of Maturity
a)	April 7	1 month	_____
b)	May 21	60 days	_____
c)	October 3	2 months	_____
d)	August 31	45 days	_____

I. C.

4. Murdox Machines wishes to have a fund of $150,000 available for retirement purposes in 20 years. How much must they invest each month at 5% compounded quarterly, in order to achieve this goal?

5. Find the compound amount and the compound interest, using a compound interest table, if $2,000 is compounded quarterly at 5% for 2½ years.

6. A $1,000 loan was repaid in 30 monthly payments of $45.20 each. Find the annual percentage rate (APR) on this loan.

7. A demand note of $900, dated September 7, was settled in full on November 21, with interest at 6%. What was the amount due on the date of settlement?

8. A mortgage of $5,000 requires a quarterly payment of $82.00 on the principal. Find the amount of the unpaid balance in force during the first, second, and third quarters.

9. Contact your local lending institutions and write a report selecting the best type of lending agency for a particular need.

II. A. CONTENT: The Wage Earner, Wages
(1-4)

OBJECTIVE: The Student will be able to compute the hours worked, wages earned on an hourly rate, overtime, and piece-rate basis.

ACTIVITIES: a) Complete the wages earned in the following:

1. Paul Moore worked the following number of hours during one week: Monday 7, Tuesday 8, Wednesday 7½, Thursday 8, Friday 8. If his hourly salary was $3.50 what should his salary be for that week?

2. Carl Jones is paid $3.25 an hour for a 40-hour week. For overtime, he is paid time and a half. Last week he worked 45 hours. How much did he earn?

3. Mr. Womack is required to keep a weekly time-card. The total hours he works each day must be rounded down to the nearest quarter hour. His regular hours are 8:00 a.m. - 12:00 p.m. and 1:00 p.m. - 5:00 p.m.

Mr. Womack Rate $3.00 an Hour				
	In	Out	In	Out
Monday	7:58	12:01	12:59	5:02
Tuesday	8:12	12:02	12:58	5:01
Wednesday	7:59	12:00	1:08	5:01
Thursday	8:00	12:03	12:57	5:02
Friday	8:18	12:01	12:59	5:00

Total hours worked _____.

Total earnings _____.

4. The Jones Import Company pays a bonus for all pieces over a standard minimum set for the job. Find the daily earnings:

Name	Piece Rate	Bonus Rate	Standard Minimum	Pieces Produced	Rejected Pieces	Daily Earnings
a) J. Dow	$ .15	$ .05	200	250	10	_____
b) A. James	.60	.20	50	60	0	_____

II. A. CONTENT: The Wage Earner, Deductions
(5)

OBJECTIVE: The student will be able to calculate net wages that involve payroll deductions.

ACTIVITIES: a) Compute the take-home pay in the following:

1. Henry works on an 8-hour day basis at $4.80 an hour with time and a half for overtime. Last week he worked the following number of hours: Monday 11, Tuesday 6, Wednesday 8, Thursday 10, Friday 7. His employer deducted $9.70 for FICA tax, $21.50 for withholding tax, $18.75 for savings bond, and $11.15 for insurance. How much did Henry receive as take-home pay?

II. B. CONTENT: The Wage Earner, Commissions

OBJECTIVE: The student will be able to solve problems involving commissions.

ACTIVITIES: a) Solve the following problems.

1. What is the amount of commission for each of the following salesmen?

Salesman	Number Sold	Commission on Each	Total Commission
A	240 Brushes	25¢	_____
B	167 Pans	98¢	_____
C	6 Vacuum Cleaners	$123	_____

2. What is the amount of commission on a total sale of $11,700, if the commission rate is 7½%?

3. A salesman may be paid a salary plus a commission. The commission may be a percent of the total sales. What is the total earnings for each salesman?

Salesman	Salary	Total Sales	Rate of Commission	Income from Commission	Earnings
D	$200	$3,000	4%	_____	_____
E	250	2,500	6%	_____	_____

4. Mr. Lee, a salesman, receives a monthly salary of $350, plus a 1% commission on all sales, and an additional 2% on monthly sales over $5,500. For the month of July, his sales were $9,000 and for August, $7,560. What was his total income for the two months?

5. A salesman received $900 in commission on a sale of $12,000. Find the rate of commission.

6. Bobby Franks, a real estate agent, sold a house and lot to Ed Jones for $16,500. He charged 4% for the commission and $135 for other expenses connected with the sale of the property. What was Mr. Franks' commission?

   What was Mr. Jones' net proceeds from the sale of the property?

II. C. CONTENT: Income Problems, Personal Cash Records

(1) OBJECTIVE: The student will be able to compile and compute balances of cash records.

ACTIVITIES: a) Complete the following cash records.

II. C.

1. Ivan Steinbeck received cash during the week of June 1-7 as follows: part-time wages $120.00, tips $109.50, rummage sale $87.50, refund on auto part $36.25, winnings at the race $40.80. Make the proper entries on the cash receipts record.

CASH RECEIPTS RECORD			
DATE	EXPLANATION	AMOUNT	
	TOTAL		

2. Ivan Steinbeck paid the following bills during the week of June 1-7: car payment $51.25, car repair $28.95, rent $45.00, food $38.00, gas and oil $23.75, entertainment $26.00. Make the proper entries on the cash payments record.

CASH PAYMENTS RECORD			
DATE	EXPLANATION	AMOUNT	
	TOTAL		

3. Did Ivan's receipts exceed his payments? If so, by what amount?

4. Cash Receipts for the month of May 19 80

DATE	RECEIPTS	EXPENDI-TURES	1 FOOD	2 CLOTHING	3 HOUSING	4 TRANSPOR-TATION	5 PERSONAL	6 SAVINGS
May	896.75		294.72	66.63	295.00	116.60	31.71	

In the above cash record summary:

a) Determine the total expenditures and savings for the month.

II. C. b) If the amounts in the summary represent average monthly expenditures, find the total receipts, expenditures and savings for the year.

II. C. (2) CONTENT: Income Problems, Personal Budget Problems

OBJECTIVE: The student will be able to use a cash record summary and determine expenditures based on the earnings.

ACTIVITIES: 1. The Jones family estimates that its total cash income for the coming year will be $6,600. The family plans to budget the income shown below. Show in the blank spaces the amount to be budgeted for each item.

Food	1/4 or _____	Operating . . .	9/40 or _____
Clothing . .	1/6 or _____	Development . .	3/40 or _____
Housing . . .	1/5 or _____	Savings	1/12 or _____

2. Earl Nelson receives a monthly take-home pay of $500. His expenses for a month are shown below. Find what fractional part of the total take-home pay was spent for each item and write the fraction in the blank. Find what percentage of the total take-home pay was spent on each item and write the percent in the blank.

Food . . .	$150 or _____	Operating . . .	$90 or _____
Clothing .	$ 75 or _____	Development . .	$60 or _____
Housing . .	$100 or _____	Savings	$25 or _____

III. A. CONTENT: The Small Business, The Balance Sheet

OBJECTIVE: The student will be able to prepare and utilize a balance sheet.

ACTIVITIES: Solve the following problems.

1. Arnold Jones, owner of Star Bakery, has assets valued at $12,764 and liabilities amounting to $1,957. What is the amount of Arnold's capital? _____

III. A.

2. Grace Roberts, owner of Grace's Card Shop, has assets valued at $26,243 and proprietorship of $19,280. What is the amount of her liabilities?

3. Prepare a Balance Sheet for the following small businesses: (Use the form for the Balance Sheet.)

   Gene Smith, owner of Cameron Clothing Store, has the following inventory on hand: cash, $3,864; merchandise inventory, $31,620; store supplies, $420; land and building $24,700; store equipment, $8,620. He owes the Cohen Apparel Co. $1,343; Marcus Brothers, $894; and Adams Textile Co. $1,188. Prepare a Balance Sheet for the month ending December 31, 19___.

_____

_____

_____

III. B. CONTENT: The Small Business, The Income Statement

OBJECTIVE: The student will be able to prepare and utilize an income statement.

ACTIVITIES: 1. Complete the following to find gross profit, net profit or loss.

Co.	NET SALES	COST OF GOODS SOLD	GROSS PROFIT	OPERATING EXPENSE	NET PROFIT	NET LOSS
A	$1,000	$ 620		$ 310		
B	3,000	2,100		600		
C	5,000	3,000		2,200		

2. In filling an order for 940 hats at $3.75 each, the manufacturer had the following costs: material, $832.25; labor, $942.68; overhead, $312.90. What was the manufacturer's gross profit on the order? What was the factory's average cost per hat?

3. Use the blank form to prepare the following income statements.

   The Kandy Kane Shop has the following data on its operations for this year: net sales, $107,200; operating expenses, $24,700; purchases during the year, $69,800; inventory at the end of year, $21,600. Prepare an income statement for year ending December 31, 1980.

_____

_____

_____

4. John's Mend-It business had net sales of $35,000. The cost of goods sold was $18,500, and the gross profit was $16,500.

a) The cost of goods sold was what percent of net sales?

b) The gross profit was what percent of net sales?

III. C. CONTENT: The Small Business, The Payroll

OBJECTIVE: The student will be able to prepare a payroll register and individual earnings record.

ACTIVITIES: Solve the following problems.

1. Complete the following payroll register.
Time and a half is paid for overtime.
Use tables to determine FICA and income taxes.

PAYROLL REGISTER WEEK ENDED JUNE 1, 1980

Name	No. Exemptions	Total Hours Reg.	Total Hours O.T.	Hour Rate	Total Earnings	Deductions FICA	Deductions Fed. Inc.	Deductions Group Inc.	Deductions Hosp.	Total Net Pay
J. Jones	3	40	4	$7.15				$1.90	$10.12	
J. Doe	2	40	0	$6.50				$1.90	$ 7.50	
P. Thorn	1	40	3	$3.90				$1.90	$10.12	
					TOTALS					

IV. A. CONTENT: The Operation of the Small Business, Buying

OBJECTIVE: The student will be able to solve problems relating to buying goods.

ACTIVITIES: Solve the following problems.

1. The billing clerk of Leach's Auto Co. prepared the following invoice.

Complete the invoice by making the extensions and show total of the invoice, and find the date due. Sales tax is 5%.

INVOICE

Date December 11, 1980

LEACH'S AUTO CO.

SOLD TO

Lake Parts
1701 Lake St.
Lake Charles, LA 70605

Our No. 8103

Cust. Order No. C411

Terms Net 30 Days

Shipped Via Bus

Quantity	Description	Unit Price	Amount
12	Shock Absorbers, No. 61-B31	$7.35	.....
15	Shock Absorbers, No. 61-B48	5.85	.....
18	Ignition Coils, No. 88-C20	4.20	.....
	Sub Total		.....
	Sales Tax		.....
	TOTAL		.....

2. The Home Builder's Supply buys shower cabinets listed at $95 less discounts of 20%, 10%, and 5%. The invoice price is _____

3. What single rate is the equivalent of the rate series 15%, 10%, and 10%?

4. What is the rate of discount given if a $50.00 coat is on sale for $40.00?

5. Find the trade discount and the net price of each of the following:

Item	List Price	Rate of Discount	Trade Discount	Net Price
A. Paint Sprayer	$80.00	10% & 5%		
B. Electric Grinder	$80.00	15%		

6. Find the amount paid for testing equipment listed at $180, subject to discounts of 20% and 10% and to terms of 8/10, 3/30, n/60. The merchandise was purchased on May 28 and paid for on June 8._____

7. The air express rate on a 140-pound shipment to Los Angeles is $17.69 a hundred pounds. Find the total shipping cost. _____

8. Complete the following: (Shipping cost amounts to 3% of the list price.)

List Price	Trade Discount	Cash Discount	Date of Inv.	Date Paid	Trade Discount	Cash Discount	Price	Ship-ping	Total Cost
a. $5,380	20% & 5%	3/10, n/60	6/28	7/5					
b. $8,000	12½% & 10%	5/30, n/60	2/19	3/1					
c. $2,400	30% & 20%	10/10, n/30	6/18	6/22					

IV. B. CONTENT: The Operation of the Small Business, Selling

OBJECTIVE: The student will be able to solve problems relating to solve problems relating to selling merchandise.

ACTIVITIES: Solve the following problems.

1. Complete the following daily sales summary and prove totals.

Daily Sales Summary October 1, 1979			
Department	Cash Sales	Charge Sales	Total Sales
Clothing	$3,050.00	$1,790.80	
Footwear	$ 979.50	$ 115.30	
Accessories	$ 309.79	$ 63.00	
TOTALS			

2. A store sells a TV for $449.00 that is regularly priced at $599. What is the rate of discount?

3. Radios are on sale at 35% discount. What is the sale price of a radio which regularly costs $50.00?

4. The Tall & Short Shop bought a job lot of 300 pantsuits for $4,500 and paid $50 transportation charges. The store sold 110 suits at $39.95, 70 at $30.00 and the remainder at $25.00. What was the gross profit?

5. The Candy Shoppe buys a box of candy for $2.53 and sells it for $5.75. The Shoppe figures its operating expenses at 25% of the net sales. What net profit is made on each box of candy?

6. The Jean Shop pays $9.40 for a pair of jeans and sells it for $14.95.

   a) The markup is what percent of the selling price?

   b) The markup is what percent of the cost of the article?

7. Marcus Mudd, owner of a men's wear store, wishes to stock a line of shirts that he can retail at $4.45. His expenses average 34% of the selling price. His markup must be _____% of the selling price. What was his markup on each shirt?_____.

8. If a dealer pays $8.50 for an article and desires to realize a markup of 32% on the selling price, the lowest price at which he should sell the article is _____.

9. By buying a model helicopter for $29 and selling it for $44.95, the Bell Hobby Shop realized a gross profit of _____, which was _____% of the cost price.

10. The Guidry Builders Supply Company pays $11.25 each for step ladders. If the company desires 56% markup on the cost, it should sell the ladders at _____ each.

IV. C. CONTENT: Operation of the Small Business, Warehouse and Distribution

OBJECTIVE: The student will be able to solve problems relating to storage space, inventory and transportation.

ACTIVITIES:

1. Office Equipment Company manufactures file cabinets. Each cabinet is stored in a box measuring 4 feet high, 1.5 feet wide, and 2.5 feet long. How many cubic feet of space does Office Equipment need to store 1700 file cabinets.

2. How many StraightAway models does Clarion Motor Coach have on its lot on October 1?

Item: StraightAway
Stock Number: JR2201F

Month of:	Opening Balance	Receipts	Issues	Inventory at End of Month
August	65	5	20	?
September	?	6	22	?
October	?			

3. Down-Home Overalls took inventory of its heavy cotton overalls. On March 1, Down-Home had 40 pairs of heavy cotton overalls in stock. What is the value of the inventory on March 1?

Item: Heavy Cotton Overalls
Stock Number: 3251

Date		Receipts	Unit Cost	Total Cost
February 1	Opening bal.	30	$15.00	$450.00
February 18		50	$15.50	$775.00
February 27		40	$15.75	$630.00
	Total	?		?

4. No-Phosphates maintains a soap inventory valued at $60,000. The cost of maintaining the inventory is approximately 15% of the value of the inventory. What is the approximate annual cost of carrying this inventory?

5. Cloud Publishing is shipping 150 pounds of books by air freight. The costs per 100 pounds or fractional part are as follows: $3.10 for pickup, $10.75 for air freight, and $2.65 for delivery. A 5% federal tax is added to the air freight charge. What is the total cost to deliver the books?

6. Hyland Company is shipping 376 pounds of photographic equipment. There-Now Trucking will handle shipment. The distance is 275 miles. What is the total shipping cost?

THERE-NOW TRUCKING Class 100 Items
Basic Rates Per 100 Pounds

Weight Group (in Pounds)	Distance (in Miles)		
	1-100	101-200	201-300
0-500	$4.23	$5.20	$6.18
501-1000	$3.55	$4.43	$5.10

IV. D. CONTENT: The Operation of the Small Business, Management Practices

OBJECTIVE: The student will be able to develop, read and apply codes, and solve problems relating to bankruptcy.

ACTIVITIES: Solve the following problems.

1. Sonny declared bankruptcy and his creditors are being paid their claims at the rate of 42.2 cents on the dollar. How much will a creditor receive on a claim of $827.50?

2. Pat went into bankruptcy owing the creditors below:

Sears	$ 875.25
A & A Supply	$ 1,270.00
General Motors	$10,310.00
Tom's Wholesale	$ 5,682.00

The cash distributed to these creditors was $539.77. How much did each creditor receive?

V. A. CONTENT: The Problems of Business, Business Cost

OBJECTIVE: The student will be able to solve problems relating to office cost.

ACTIVITIES: Solve the following problems.

1. Tedrow Farm Equipment rents warehouse space at an annual rate of $3.45 per square foot. Tedrow's warehouse measures 185 feet by 150 feet. What is the monthly rental charge?

2. Motel Nine hired three high school students to clean its swimming pool. Each student worked for 2.5 hours at an hourly rate of $3.90. The materials charge was $18.54. What was the total charge for this service?

3. Fonda Imports, Inc. pays a basic monthly charge of $34.95 for telephone service. The charge includes 110 outgoing local calls. Each additional outgoing local call costs $.09 Last month, a total of 184 outgoing local calls were made from Fonda imports. A 2% federal tax was added to the bill for the month. What was the total cost of telephone service for the month?

4. The Batson Corporation uses 18,500 kilowatt-hours of electricity with a peak load of 120 kilowatts in April. The demand charge is $3.12 per kilowatt. The energy charge per kilowatt-hour is $.08 for the first 10,000 kilowatt-hours and $.06 for all kilowatt-hours over 10,000. The fuel adjustment charge is $.04 per kilowatt-hour. What is the total cost of electricity for the Batson Corporation for April?

5. Office paper cost $5.10 per ream when bought individually. When bought by the case (10 reams) it cost $4.60 per ream.

   a) What is the cost of 45 reams of paper when bought individually?

   b) What is the savings per ream when buying by the case?

6. What is the total cost of equipping an office with the following equipment?

1 Desk	$399.95	1 Typewriter	$525.00
1 Chair	$ 79.50	1 Calculator	$150.00
1 File	$101.12	1 Desk Tray	$ 12.00
1 Lamp	$ 34.75	1 Address Book	$ 2.75

7. A secretary is paid $5.25 per hour. In addition, she receives 20% of her cash salary in fringe benefits. She works 40 hours per week.

   a. What is her cash salary for the week?

   b. What is her total gross wage including benefits?

8. Clyde Bailey is opening a branch tax office for four months. He plans to rent this furniture at a monthly charge of 9% of the list price plus a 4% tax.

Item	List Price
2 Desks	$247.95 each
2 Desk Chairs	$ 47.95 each
4 Guest Chairs	$ 42.45 each
1 File Cabinet	$ 74.95
1 Book Case	$ 97.50

What is the total rental cost for the furniture?

9. National Industries, Inc. hired a consultant from the Besecker Engineering Firm to help develop a new engine. The consultant's fee was 11.5% of the cost of the project. The project cost $975,000. What was the total cost of the consultant's services?

10. The advertising for the Countryside Cereal includes these commercials:

Number	Length	Time
5	10-Second	Daytime
4	30-Second	Prime Time
2	60-Second	Prime Time

Costs for 30-second commercials are $8,000 for daytime and $28,645 for prime time. The cost of a 10-second commercial is one half the cost of a 30-second commercial. The cost of a 60-second commercial is two times the cost of a 30-second commercial. What is total advertising cost?

11. Contract your local insurance agents and determine the cost of various types of insurance for a small business. Report on the finding to your class.

V. B. CONTENT: The Problems of Business, Partnership, Partnership Income

OBJECTIVE: The student will be able to solve problems relating to distribution of partnership income.

ACTIVITIES: Solve the following problems.

1. In the partnership of the Theriot and Richard, a net profit of $22,700 for one year is to be divided between the partners in the following manner: Theriot is to be allowed an annual salary of $9,600 and Richard, $7,800; and the remainder of the net profit is be shared equally. On this basis, Theriot's total share of net profit is _____; Richard's total share is _____.

2. Nash and Weldon entered into a partnership, investing $10,000 and $7,500, respectively. The agreement provided for equal sharing of profits after 6% interest is paid each partner on invested capital. The business earned $6,400 for the year. Find each partner's share of the profits, including interest on his investment.

3. Two partners, Meaux and Jones, invested $10,000 and $15,000, respectively, in a business. The partnership agreement provided for profit sharing according to the original investment. How much is each partner entitled if the profit for 1 year amounted to $7,500? _____

V. C. CONTENT: The Problems of Business, Corporation Income

OBJECTIVE: The student will be able to solve problems relating to distribution of corporate income.

ACTIVITIES: Solve the following problems.

1. The GN Bank, whose capital stock consists of 50,000 shares, paid a dividend of $63,500. What was the rate per share?

2. The Stein Corporation, whose capital stock is $500,000, has a net income of $74,000 for one year. What rate of dividend may be declared if the entire net income is to be distributed to the stockholders?

3. A corporation has 9,500 shares of outstanding stock at $100 each. The corporation made a profit of $114,000. The directors voted that 75% of the profits should be paid as dividends.

   a) What was the dividend rate per share, as a percent?

   b) What was the amount of the dividend in dollars per share?

VI. A. CONTENT: The Manufacturer, Cost

OBJECTIVE: The student will be able to solve problems pertaining to cost of manufacturing goods.

ACTIVITIES: Solve the following problems.

1. For November, the manufacturing costs of Thom-Richard Company were as follows: raw materials, $25,371; direct labor, $33,640; factory expense, $5,200. What was the total factory cost?

2. A power drill costing $1,500 decreases in value each year at the rate of 9% on the original cost. Find the estimated value of the drill at the end of the fifteenth year.

3. The four departments of the Tallis Company occupy floor space as follows:

Shop A	2,800 sq. ft.	Assembly Room	2,200 sq. ft.
Shop B	2,000 sq. ft.	Shipping Room	1,500 sq. ft.

The annual rent of 8.000 is to be distributed on the basis of floor space to each department. What should be charged to each department?

4. The insurance on equipment of the Biogas Clothing Manufactory amounts to $1,000 per year and is distributed in proportion to the valuation of equipment in each department. This valuation is:

Department A	$15,000	Department C	$5,000
Department B	$ 3,000	Department D	$2,000

How much should be charged to each department?

VI. B. CONTENT: The Manufacturer, Pricing Articles

OBJECTIVE: The student will be able to solve problems pertaining to pricing goods.

ACTIVITIES: Solve the following problems.

1. A hat that the manufacturer sells for $4.20 has the following manufacturing costs: material $1.14; labor $1.29; factory overhead $.51. What is the manufacturer's gross profit on each hat?

2. A manufacturer sells a radio for $89.95, his factory costs are as follows: material $23.40; labor $27.50; overhead $9.49. He estimates the selling and administrative expenses at 16% of the selling price. Find the net profit.

3. The total cost of producing and selling a TV is $329.00. At what price must the manufacturer sell each TV in order to make a 15% profit on the selling price?

VII. A. CONTENT: Taxes, Property

OBJECTIVE: The student will be able to solve problems pertaining to property taxes.

ACTIVITIES: Solve the following problems.

1. Find the tax rate in each problem. Show the tax rate as a decimal correct at five places.

	Assessed Valuation	Total Tax
a)	$5,000,000	$260,000
b)	$4,400,000	$181,500
c)	$7,580,000	$132,650

2. Find the amount to be raised by property tax and tax rate. Show the rate as a decimal.

	Assessed Valuation	Total Budget	Other Income	Raised by Property Tax	Tax Rate
a)	$10,250,000	$548,600	$52,500		
b)	$ 9,375,000	$495,000	$15,000		

VII. B. CONTENT: Taxes, Sales, and Excise

OBJECTIVE: The student will be able to solve problems pertaining to sales and excise taxes.

ACTIVITIES: Solve the following problems.

1. For the period ending January 27, Mull used 6,400 cubic feet of gas of the average price of 23¢ per 100 cubic feet. A local sales tax 6% was added to the bill. What was Mull's total gas bill?

2. The Radio Shoppe's telephone charges for April were $22.50 for regular service, $35.78 for long distance calls and $5.75 for an extension phone. A federal excise tax of 2% and a sale tax of 7% were added to the bill. What was the store's total bill?

VII. C. CONTENT: Taxes, Social Security

OBJECTIVE: The student will be able to solve problems pertaining to the FICA tax on net earnings

ACTIVITIES: Solve the following problem.

1. Find the FICA tax on each weekly wage. Each is fully taxable. Use a rate of 6.13% and round the tax to the nearest cent.

   a) Tina Cooper $160.00

   b) Tim Jones $250.00

   c) Irene Smith $318.10

VII. D. CONTENT: Taxes, Federal Income Tax

OBJECTIVE: The student will be able to complete a Form 1040A, single and married, filing jointly.

ACTIVITIES: Solve the following problems.

1. Last year Rita Bono earned a salary of $10,200 and commissions of $205. She received $115 interest on a savings account, and $300 in bonuses. What was her gross income?

2. Tom Jones is unmarried. His adjusted gross income for the year is $21,000. His excess deductions are $800. He has only his own exemption of $1,000. Find the taxable income.

3. Students are to complete a Form 1040A, filing singly, using information provided by the teacher.

4. Students are to complete a Form 1040A, married, filing jointly, using information provided by the teacher.

VII. D. CONTENT: Stocks, Sales of Stock

OBJECTIVE: Students will be able to calculate the loss or gain on the sale of stocks.

ACTIVITIES: Solve the following problem.

Find the profit or loss in each of the following:

Name of Stock	Shares Traded	Purchase Price	Commission on Purchase	Selling Price	Commission and Taxes on Sale
Coca Cola Bottling Co.	100	6	$25	$8\frac{5}{8}$	$35.00
International Harvester	200	29	$103	$27\frac{1}{2}$	$52.50

VIII. A. CONTENT: Stock, Total Investment (Optional)

OBJECTIVE: The student will be able to solve problems involving total investment.

ACTIVITIES: Solve the following problems.

Corporation	No. of Shares	Cost per Share	Cost of Stocks	Commission	Total Paid
AuGlo	100	$\$ 7\frac{3}{4}$		$ 21.35	
Peasley Co.	1000	$\$30\frac{1}{2}$		$150.25	
TCN Br.	500	$\$23\frac{1}{4}$		$118.13	
HM Co.	250	$\$59\frac{5}{8}$		$147.50	

VIII. B. CONTENT: Stock; Stock Quotation

OBJECTIVE: Students will be able to read the daily stock quotation tables.

ACTIVITIES: Using the daily stock quotations in your local newspaper, follow the daily stock quotation of a particular stock and report on each change for one week.

VIII. C. CONTENT: Stock; Stock Income and Profit

OBJECTIVE: Students will be able to calculate the total income and total profit on a given stock.

ACTIVITIES: Solve the following problem.

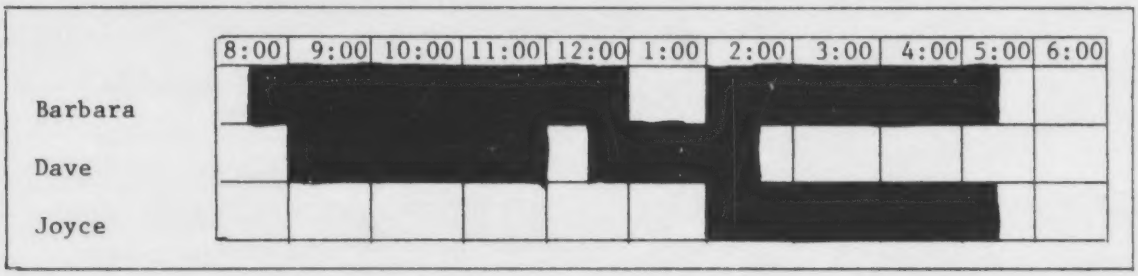
1. Charlene Simpson owns 300 shares of Beegan Labs. The purchase price was $71.375 per share. The dividends were $3.50 per share. What were her annual dividends? What is the annual yield?

Simulation

Copyfax Center

You are the manager of Copyfax Center, a small business that does copying, printing, and word processing.

Copyfax Center has three employees. Here is your chart of the hours they work each day Monday through Friday.



Each week you make up the weekly payroll. Each employee must pay 6.13% for FICA and 5% for state tax. You pay employees time and a half for overtime.

Use these worksheets to calculate this week's net pay for each employee. Use tax tables to determine the Federal Income Tax (FIT). This week Barbara worked three hours overtime. Dave and Joyce did not work overtime.

Employees	Hourly Pay	Hours Worked		Gross Pay
		Regular	Overtime	
Barbara Luna	$7.30			
Dave Elwood	$6.35			
Joyce Tazzi	$3.50			

Employee	Status	FIT	FICA	State Tax	Health Insur.	Total Ded.	Net Pay
Barbara Luna	Married 3 Allow.				$4.50		
Dave Elwood	Single 2 Allow.				$3.50		
Joyce Tozzi	Single 1 Allow.				--		

Pricing:

The price that Copyfax Center charges for copies depends on the number of copies made. This chart shows the current prices.

Number of Copies	Price Per Page*
1-24	$.05
25-49	$.035
50-99	$.03
100-199	$.026
200-499	$.022
Over 500	$.019

*Plus 5% Sales Tax

Regular customers get discounts. A few receive a trade discount of 30%. Other get a cash discount of 2% if they pay within 10 days. Both discounts are deducted before the sales tax is calculated.

Use these invoices to calculate the prices charged these customers.

COPYFAX CENTER	Invoice No. 2257 Date June 15, 19-
Customer	Christine's Hardware
Number of copies	600
Price per page	$
Total price	$
Discount: _____% _____ trade _____ cash	$
Net price	$
Sales tax	$
Invoice price	$

COPYFAX CENTER	Invoice No. 2289 Date June 17, 19-
Customer	Mike's Travel Service
Number of copies	137
Price per page	$
Total price	$
Discount: _____% _____ trade _____ cash	$
Net price	$
Sales tax	$
Invoice price	$

Depreciation:

Depreciation of Copyfax Center's equipment is considered a business expense.

Use this worksheet to calculate the depreciation of these items, using the staight-line method.

	Copier	Word Processor	Typewriter	Delivery Van
Year Purchased	1982	1983	1981	1982
Original Cost	$8,500	$7,500	$975	$11,248
Salvage Value	$1,000	$750	$225	$1,600
Total Depreciation				
Estimated Life	5 yrs	5 yrs	6 yrs	6 yrs
Annual Depreciation				

As part of your long-range planning, you decide to calculate how much each item will be worth each year.

Use this worksheet to calculate the value of each item in each of the years listed. (If Copyfax Center does not own an item one year, write "N/A" for Not Applicable.) Then calculate the total value of Copyfax's equipment for each year.

Year	Copier	Word Processor	Typewriter	Delivery Van	Total Value
1982					
1983					
1984					
1985					
1986					
1987					

Balance Sheet:

Each month you prepare a balance sheet. The balance sheet lists Copyfax Center's assets (what it owns), its liabilities (what it owes), and the owner's equity (assets minus liabilities).

You start by listing your assets and liabilities in a running account like this:

Copyfax Center	June 20, 19-
Cash on hand	$1,400
Accounts receivable	$5,000
Accounts payable	$6,000
Equipment (less accumulated depreciation)	$9,260
Supplies (paper, etc.)	$1,275
Prepaid insurance (3-year policy)	$1,800
Miscellaneous assets	$ 520
Taxes owed	$ 50

Use this form to complete Copyfax Center's balance sheet. Enter the assets and liabilities from your running account.

COPYFAX CENTER Balance Sheet June 30, 19__			
ASSETS		LIABILITIES	
	$		$
		Total Liabilities	
		Owner's Equity	
Total Assets		Total Liabilities and Equity	

Income Statement:

Each month you also prepare Copyfax Center's income statement. Here are the sales and expenses you have recorded during this month.

COPYFAX CENTER		JUNE 19_	
Wages	$2,125	Insurance	$50
Advertising	$135	Taxes	$18
Delivery	$72	Depreciation	$333
Postage	$38	Supplies	$936
Rent	$350	Gross Sales	$5,300
Utilities	$70	Sales Discounts	$672

Use this form to prepare an income statement.

COPYFAX CENTER Income Statement for Month Ended June 30, 19__	
Income: Gross Sales	
Less Sales Discounts	
Net Sales	
Expenses:	
Total Operating Expenses	
NET INCOME	

Annual Report and Comparative Analysis:

At the end of each year, you prepare an annual income statement. You can then compare Copyfax Center's finances for two years, in order to plan for next year.

This chart shows Copyfax Center's income and expenses for last year and this year. Fill in the missing numbers. Then, for each amount, calculate the percent increase from last year to this year.

COPYFAX CENTER Annual Income Statement		Last Year	This Year	Percent Increase
Income:	Gross Sales	$63,000	$79,600	
	Less Sales Discounts	8,000	10,100	
	Net Sales			
Expenses:	Wages	24,746	33,548	
	Advertising	1,575	3,700	
	Delivery	825	1,040	
	Postage	463	565	
	Rent	4,200	4,500	
	Utilities	945	1,130	
	Insurance	600	600	
	Taxes	214	250	
	Depreciation	4,000	4,000	
	Supplies	11,239	13,850	
	Total Operating Expenses			
	NET INCOME			

Complete the following statements comparing last year's and this year's figures. The expense with the largest percent increase was _____. The next largest was _____. Net sales increased by _____%, total operating expenses by _____%, and net income by _____%.

The Bottom Line

What would you do differently next year to improve Copyfax Center's financial picture?

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Lange, Walter H., Robert D. Mason, and Temolion G. Rousos. Business Mathematics. Boston: Houghton-Mifflin Co., 1981. 497 pp.

Rosenberg, Robert and Harry Lewis. Business Mathematics. New York: Gregg Publishing Division, McGraw Publishing Company, Inc., 1958. 560 pp.

Saake, Thomas F. Business and Consumer Mathematics. Menlo Park, California: Addison-Wesley Publishing Company, Inc., 1977. 433 pp.

Resource Material

"The How & Why of Banking" prepared by the California Bankers Association

Income tax information packet - Federal Government

Copyfax simulation included.

EVALUATIVE TECHNIQUES

The importance of regular and frequent evaluation is nowhere more obvious than in the area of mathematics where skills are built in a cumulative manner. Frequent short quizzes should be used to determine understanding and mastery of each concept as it is taught. Longer tests covering related concepts and their relevance in problem solving should be administered at the conclusion of each unit of learning. Comprehensive examinations covering all concepts and skills are very important at the end of each semester or each year. The sample items in the activities section of this guide represent ideas for examination problems but are by no means recommended for use as they are presented in this book. These evaluative techniques are to be used to measure the degree of achievement by the students with the understanding that there are many other kinds of tools for the measurement of student progress in achieving curricular objectives.

A basic goal in teaching mathematics should be to aid the student in becoming a competent problem solver. It is not enough to teach just mathematical skills. The student must also be provided an opportunity to practice the application of these mathematical skills to solve problems successfully. The student's ability to solve problems logically should be evaluated regularly since it is a lifetime skill which carries over into all areas of living.

ANSWER KEY

I. A. 1.

DEPOSITED WITH

CAMERON STATE BANK
CAMERON, LA 70631

FOR ACCOUNT OF DATE _____ 19 ____

NAME _____

ADDRESS _____

CITY _____

Items received for deposit are subject to the terms and conditions of the contract or agreement governing such deposits.

ACCOUNT NO.

By:

CASH	34	00
CHECKS AS FOLLOWS		
#12039	59	95
#987899	2	50
#57892	17	80
SEE THAT ALL CHECKS AND DRAFTS ARE ENDORSED TOTAL DEPOSIT $	114	25

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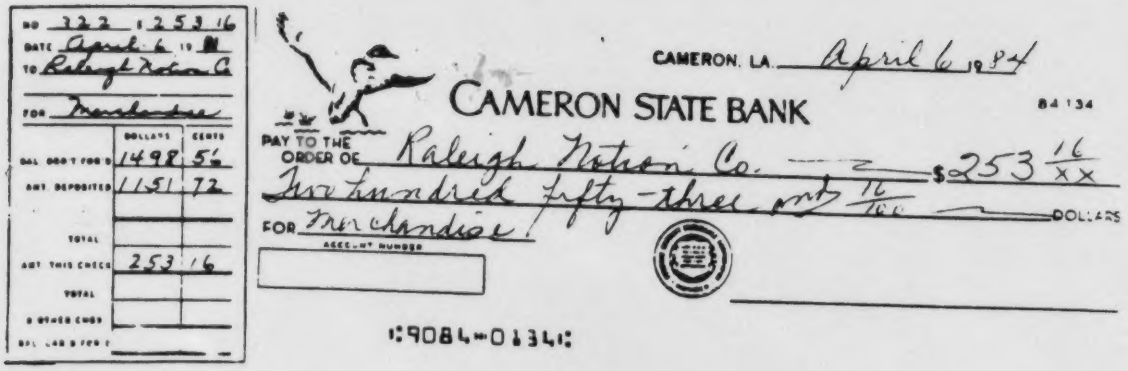
I. A. 2.



NO 322 | 253 16
DATE April 6 19 84
TO Raleigh Notion Co
FOR Merchandise

	DOLLARS	CENTS
BAL BRO'T FOR'D	1498	56
AMT DEPOSITED	1151	72
TOTAL		
AMT THIS CHECK	253	16
TOTAL		
OTHER CHGS		
BAL CAR'D FOR'D		

CAMERON, LA. April 6 19 84

CAMERON STATE BANK

84-134

PAY TO THE ORDER OF Raleigh Notion Co. $253 16/xx

Two hundred fifty-three and 16/100 DOLLARS

FOR Merchandise

ACCOUNT NUMBER

:9084-0134:

NO 323 | 155 76
DATE April 9 19 84
TO S. Horn Co
FOR Toys

	DOLLARS	CENTS
BAL BRO'T FOR'D		
AMT DEPOSITED	230	40
TOTAL		
AMT THIS CHECK	155	76
TOTAL		
OTHER CHGS		
BAL CAR'D FOR'D		

CAMERON, LA. April 9 19 84

CAMERON STATE BANK

84-134

PAY TO THE ORDER OF S. Horn Co. $155 76/xx

One hundred fifty-five and 76/100 DOLLARS

FOR toys

ACCOUNT NUMBER

:9084-0134:

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I. A. 3.

Bank Balance	$2726.86	Checkbook Balance	$1815.60
Deduct Outstanding Checks		Deduct Service Charge	4.20
No. 309	$170.70		
No. 315	39.16		
No. 331	207.60	417.46	
	$2309.40		
Add Deposit not Credited	202.00	Add Note Collected by Bank	700.00
Adjusted Bank Balance	$2511.40	Adjusted Checkbook Balance	2511.40

I. B. 1. $636.82

2. $295.88

I. C. 1.

Amt of Discount	Proceeds
$2.00	$198.00
3.49	360.51
10.04	276.71

2. Oct. 30, $787.50

3. May 7
July 20
Dec 2
Oct 15

4. $4,627.08

5. $2,264.54, $264.54

6. 14.2%

7. $911.34

8. 1st Q = $4,918, 2nd Q = $4,836, 3rd Q = $4,754

II. A. 1. $134.75

2. $154.38

3. Total hours 39, Total earnings $117.00

II. A. 4. a) $32
b) $32

5. 1) $145.30

B. 1. A - $60.00
B - $163.66
C - $738.00

2. $877.50

3.

	Income	Gross Earnings
D	$120.00	$320.00
E	$150.00	$400.00

4. $1,085.60

5. 7½%

6. $795.00, $15,705.00

C. 1.

CASH RECEIPTS RECORD			
DATE	EXPLANATION	AMOUNT	
6/1	Part-time Wages	120	00
6/2	Tips	109	50
6/3	Rummage Sale	87	50
6/4	Refund on Auto Part	36	25
6/5	Winnings at race	40	80
	TOTAL	394	05

II. C. (1) 2.

CASH PAYMENTS RECORD			
DATE	EXPLANATION	AMOUNT	
6/1	Car Payment	51	25
6/2	Car Repair	28	95
6/3	Rent	45	00
6/4	Food	38	00
6/5	Gas & Oil	23	75
6/6	Entertainment	26	00
	TOTAL	212	95

3. Yes, $181.10

4.

Cash Receipts for the month of May 19 80

DATE	RECEIPTS	EXPENDITURES	1 FOOD	2 CLOTHING	3 HOUSING	4 TRANSPORTATION	5 PERSONAL	6 SAVINGS
May	896.75	804.66	294.72	66.63	295.00	116.60	31.71	92.09
	10,761/yr.	9,655.92/yr.						1105.08/yr.

II. C. (2) 1.

Food . . . . 1/4 or 1650 Operating . . . 9/40 or 1485

Clothing . . 1/6 or 1100 Development . . 3/40 or 495

Housing . . 1/5 or 1320 Savings . . . . 1/12 or 550

II. C. (2) 2.

Food . . . $150 or $\frac{3}{4}$ or 30% Operating . . . $90 or $\frac{9}{50}$ or 18%

Clothing . $ 75 or $\frac{3}{20}$ or 15% Development . . $60 or $\frac{3}{25}$ or 12%

Housing . $100 or $\frac{1}{5}$ or 20% Savings . . . . $25 or $\frac{1}{20}$ or 5%

III. A. 1. $10,807.00

2. $ 6,963.00

3.

Balance Sheet
Cameron Clothing Store
December 31, 1980

ASSETS		LIABILITIES	
Cash	3,814	Cohen Apparel Co	1,343
Inventory	31,620	Marcus Bros.	894
Supplies	420	Adams Textile Co.	1,188
Land & Building	24,700	Gene Smith, Capital	65,799
Equipment	8,620		
	69,224		69,224

III. B. 1.

CO.	NET SALES	COST OF GOODS SOLD	GROSS PROFIT	OPERATING EXPENSE	NET PROFIT	NET LOSS
A	$1,000	$ 620	380	$ 310	70	–
B	3,000	2,100	900	600	300	–
C	5,000	3,000	2000	2,200	–	200

2. $1,437.17, $2.22

3.

Income Statement
Kandy Kane Shop
December 31, 1980

Net Sales		107,200	
Purchases	69,800		
Merch. Inv. Dec 31	21,600		
Cost of Goods Sold		48,200	
Gross Profit		59,000	
Operating Expenses		24,700	
Net Profit		34,300	

4. a) 52.9%
   b) 47.1%

C. 1. tables used will vary answers

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IV. A. 1.

I N V O I C E

DATE December 11, 1980

L E A C H ' S
A U T O
C O.

SOLD TO

Lake Parts
1701 Lake St.
Lake Charles, La. 70605

Our No. 8103

Cust. Order No. C411

Terms Net 30 Days

Shipped Via Bus

Quantity	Description	Unit Price	Amount
12	Shock Absorbers, No. 61-B31	$7.35	$88.20
15	Shock Absorbers, No. 61-B48	5.85	87.75
18	Ignition Coils, No. 88-C20	4.20	75.60
		Sub Total	251.55
Date due: Jan. 10, 1981		Sales Tax	12.58
		TOTAL	264.13

IV. A. 2. $64.98

3. 31%

4. 20%

5.

Trade Discount	Net Price
$11.60	$68.40
12.00	68.00

6. $125.71

74

IV. A. 7. $24.77

8.

List Price	Trade Discount	Cash Discount	Date of Inv.	Date Paid	Trade Discount	Cash Discount	Price	Shipping	Total Cost
a. $5,380	20% & 5%	3/10, n/60	6/28	7/5	1291.20	161.40	3427.40	161.40	4088.80
b. $8,000	12½% & 10%	5/30, n/60	2/19	3/1	1700	400	5900	240	6140
c. $2,400	30% & 20%	10/10, n/30	6/18	6/22	1056	240	1104	72	1176

B. 1.

Daily Sales Summary
October 1, 1979

Department	Cash Sales	Charge Sales	Total Sales
Clothing	$3,050.00	$1,790.80	4840.80
Footwear	$979.50	$115.30	1094.80
Accessories	$309.79	$63.00	372.79
TOTALS	4339.29	1969.10	6308.39

2. 25%

3. $32.50

4. $4,944.50

5. $2.42

6. a) 37%
   b) 59%

7. 34%, $1.51

8. $12.50

9. $15.95, 55%

IV. B. 10. $17.55

C. 1. 25,500

2.

Opening Balance	Inventory EOM
Aug. 65	50
Sept. 50	34
Oct. 34	

3. $630.00

4. $9,000.00

5. $34.65

6. $24.72

D. 1. $349.21

2.

	%	Creditor rec'd
Sears	5%	$ 26.99
A & A Supply	7%	37.78
Gen. Motors	57%	307.67
Tom's Whl.	31%	167.33
		$539.77

V. A. 1. $7,978.13

2. $47.79

3. $42.44

4. $2,424.40

5. a) $229.50
b) $.50

6. $1,305.07

7. a) $210.00
b) $252.00

8. $1,058.83

9. $112,125.00

10. $249,160.00

B. 1. Theriot $10,450.00, Richard $12,250.00

V. B. 2. $3,275.00, $3.125.00

3. $3,000.00, $4,500.00

C. 1. $1.27

2. 14.8%

3. a) 9%
b) $9.00

VI. A. 1. $64,211.00

2. $825.00

3. Shop A $2,632
Shop B $1,880
Assembly $2,068
Shipping $1,410

4. Dept. A $600
Dept. B $120
Dept. C $200
Dept. D $80

B. 1. $1.26

2. $15.17

3. $287.06

VII. A. 1. a) .05200
b) .04125
c) .01750

2.

	Raised by Property Tax	Tax rate
a)	496,100	.0484
b)	480,000	.0512

B. 1. $15.60

2. $69.79

C. 1. a) $9.81
b) $15.33
c) $19.50

D. 1. $10,820.00

2. $19,200.00

VIII. A.

	Cost of Stocks	Total Paid
Au Glo	$ 775.00	$ 796.35
Peasley Co.	30,500.00	30,650.25
TCN Br.	11,625.00	11,743.13
HM Co.	14,907.50	15,055.00

C. $1,050.00, 4.9%

D.

	Cost	Sold	Profit/Loss
Coca Cola	$625.00	$828.00	$203.00 (+)
International Harvester	$5,903.00	$5,447.50	$455.50 (-)

SIMULATION ANSWER KEY

SIMULATION

Employee	Hourly Pay	Hours Worked		Gross Pay
		Regular	Overtime	
Barbara Luna	$7.30	40	3	324.85
Dave Elwood	$6.35	20	0	127.00
Joyce Tazzi	$3.50	17.5	0	61.25

Employee	Status	FIC	FICA	State Tax	Health Insur.	Total Ded.	Net Pay
Barbara Luna	Married 3 Allow.				$4.50	Will vary according to the tables used.	
Dave Elwood	Single 2 Allow.				$3.50		
Joyce Tozzi	Single 1 Allow.				--		

COPYFAX CENTER	Invoice No. 2257 Date June 15, 19-
Customer	Christine's Hardware
Number of copies	600
Price per page	$ .019
Total price	$ 11.40
Discount: 30 % __ trade __ cash	$ 3.42
Net price	$ 7.98
Sales tax	$ .40
Invoice price	$ 8.38

COPYFAX CENTER	Invoice No. 2289 Date June 17, 19-
Customer	Mike's Travel Service
Number of copies	137
Price per page	$ .026
Total price	$ 3.56
Discount: 2 % __ trade X cash	$ .07
Net price	$ 3.49
Sales tax	$ .17
Invoice price	$ 3.66

	Copier	Word Processor	Typewriter	Delivery Van
Year Purchased	1982	1983	1981	1982
Original Cost	$8,500	$7,500	$975	$11,248
Salvage Value	$1,000	$750	$225	$1,600
Total Depreciation	7,500	6,750	750	9,648
Estimated Life	5 Yrs	5 Yrs	6 Yrs	6 Yrs
Annual Depreciation	1,500	1,350	125	1,608

COPYFAX CENTER
Balance Sheet June 30, 19___

ASSETS		LIABILITIES	
Cash on Hand	$ 1,400	Accounts Payable	$ 6,000
Acct. Receivable	5,000		
Equipment	9,260		
Supplies	1,275		
Misc.	520	Insurance	50
		Total Liabilities	6050
		Owner's Equity	11,405
Total Assets	$17,455	Total Liabilities and Equity	$17,455

Year	Copier	Word Processor	Typewriter	Delivery Van	Total Value
1982	8500	N/A	850	11,248	20,598
1983	7000	7500	725	9,640	24,865
1984	5500	6150	600	8,032	20,282
1985	4000	4800	475	6,424	15,699
1986	2500	3450	350	4,816	11,116
1987	1000	2100	225	3,208	6,533

COPYFAX CENTER
Income Statement for Month Ended June 30, 19___

Income: Gross Sales	$ 5,300
Less Sales Discounts	672
Net Sales	4628
Expenses: Supplies	936
Wages	2125
Advertising	135
Delivery	72
Postage	38
Rent & Utilities	420
Ins & Taxes	68.
Depreciation	333
Total Operating Expenses	4127
NET INCOME	$ 501

COPYFAX CENTER Annual Income Statement		Last Year	This Year	Percent Increase
Income:	Gross Sales	$63,000	$79,600	26
	Less Sales Discounts	8,000	10,100	26
	Net Sales	55,000	69,500	26
Expenses:	Wages	24,746	33,548	36
	Advertising	1,575	3,700	135
	Delivery	825	1,040	26
	Postage	463	565	22
	Rent	4,200	4,500	7
	Utilities	945	1,130	20
	Insurance	600	600	0
	Taxes	214	250	17
	Depreciation	4,000	4,000	0
	Supplies	11,239	13,850	23
	Total Operating Expenses	48,807	63,183	29
	NET INCOME	6,193	6,317	2%

Complete the following statements comparing last year's and this year's figures. The expense with the largest percent increase was advertising. The next largest was wages. Net sales increased by 26 %, total operating expenses by 29 %, and net income by 2 %.